# Unit 2 Creating Systems to Manage Information

## Level 3 National in Information Technology

January 2025

## Example Solution

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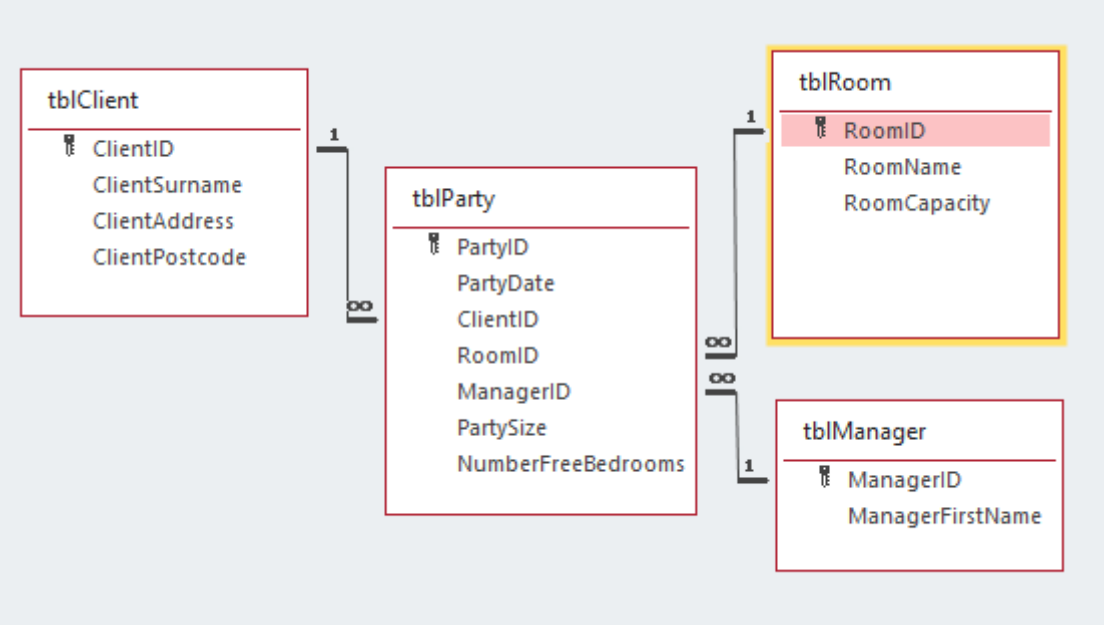
# Part A

# Activity 1 – Database relationships screenprint



# Activity 2 – Table structures

**tblClient**

| Field Name | Data Type |
|---|---|
| ClientID | Number |
| ClientSurname | Short Text |
| ClientAddress | Short Text |
| ClientPostcode | Short Text |

**tblRoom**

| Field Name | Data Type |
|---|---|
| RoomID | Number |
| RoomName | Short Text |
| RoomCapacity | Number |

**tblManager**

| Field Name | Data Type |
|---|---|
| ManagerID | Number |
| ManagerFirstName | Short Text |

**tblParty**

| Field Name | Data Type |
|---|---|
| PartyID | Number |
| PartyDate | Date/Time |
| ClientID | Number |
| RoomID | Number |
| ManagerID | Number |
| PartySize | Number |
| NumberFreeBedrooms | Number |

### Presence check and Length check

ClientSurname — Short Text

General | Lookup

| | |
|---|---|
| Field Size | 30 |
| Format | |
| Input Mask | |
| Caption | |
| Default Value | |
| Validation Rule | Is Not Null |
| Validation Text | You must enter the client's surname |
| Required | No |

### Format check

ClientPostcode — Short Text

General | Lookup

| | |
|---|---|
| Field Size | 7 |
| Format | |
| Input Mask | >LL0\ 0LL |
| Caption | |

### Value lookup or range check

NumberFreeBedrooms — Number

General | Lookup

| | |
|---|---|
| Field Size | Long Integer |
| Format | |
| Decimal Places | Auto |
| Input Mask | |
| Caption | |
| Default Value | 0 |
| Validation Rule | >=1 And <=3 |
| Validation Text | Must be between 1 and 3 |

### **Table lookup** Any foreign key
Limit to list Yes on combo

**tblParty**

| Field Name | Data Type |
|---|---|
| RoomID | Number |
| ManagerID | Number |

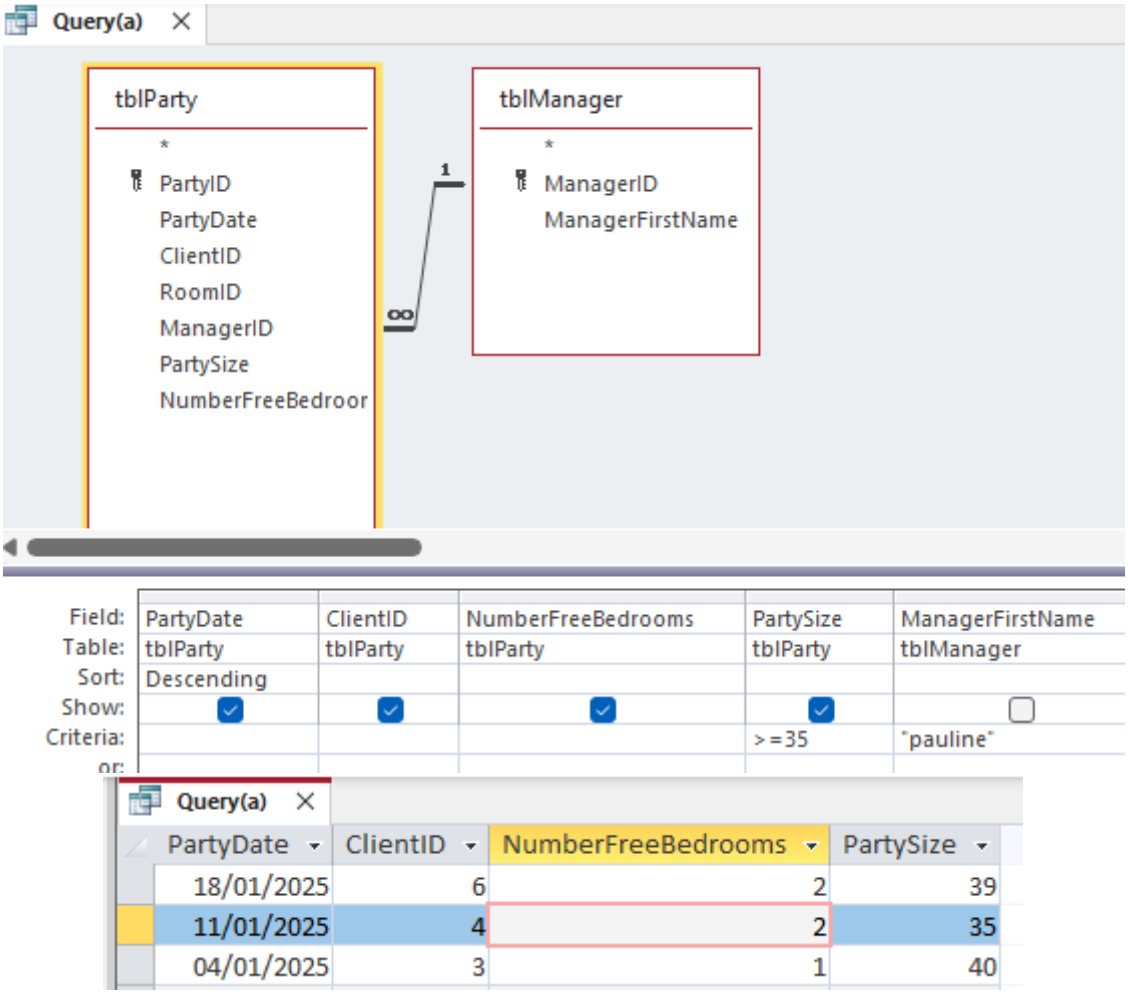
Field Properties

General | Lookup

| | |
|---|---|
| Display Control | Combo Box |
| Row Source Type | Table/Query |
| Row Source | SELECT [tblManager].[ManagerID], [tblManager].[ManagerFirstN |
| Bound Column | 1 |
| Column Count | 2 |
| Column Heads | No |
| Column Widths | 1.72cm;3.175cm |
| List Rows | 16 |
| List Width | 4.894cm |
| Limit To List | Yes |

# Activity 3 – Queries and report

(a) Create a query to display a sorted list of parties from latest party date to earliest party date. The party manager must be Pauline and the party size at least 35. The query must display, in this order, the party date, the client ID, the number of bedrooms given free of charge and the party size.




Query(a)

| PartyDate | ClientID | NumberFreeBedrooms | PartySize |
|---|---|---|---|
| 18/01/2025 | 6 | 2 | 39 |
| 11/01/2025 | 4 | 2 | 35 |
| 04/01/2025 | 3 | 1 | 40 |

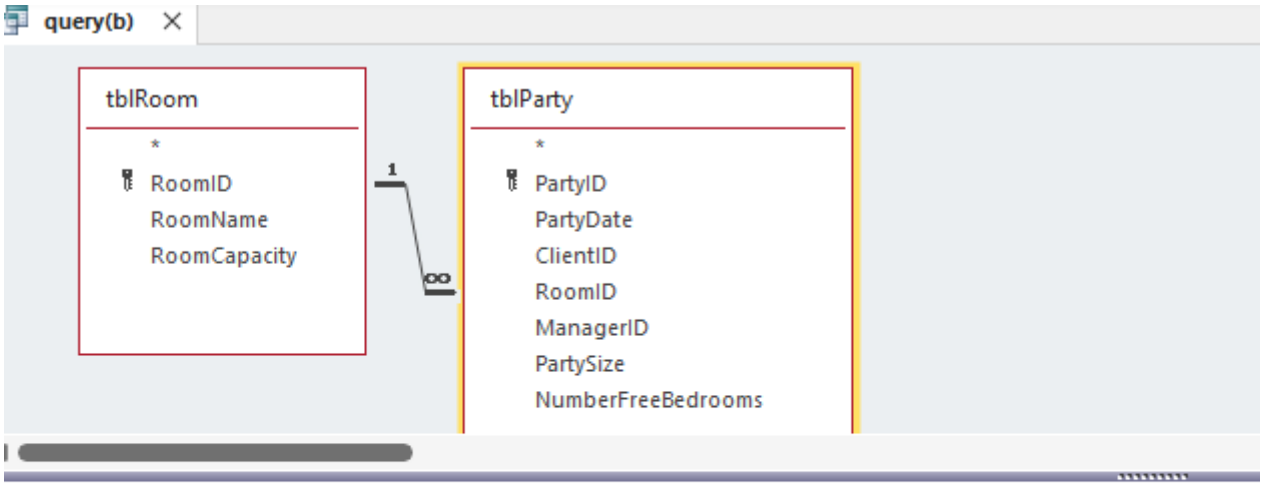
(b) £90 revenue is lost each time a bedroom is given free of charge.

Create a query to display information about parties held in The Lords Hall in 2025 where the revenue lost is more than £90.

Calculate the revenue lost.

Display the:

- room name
- party date
- number of free bedrooms given
- • revenue lost.




| Field: | RoomName | PartyDate | NumberFreeBedroom | RevenueLost: [NumberFreeBedrooms]*90 |
|---|---|---|---|---|
| Table: | tblRoom | tblParty | tblParty | |
| Total: | Group By | Group By | Group By | Expression |
| Sort: | | | | |
| Show: | ☑ | ☑ | ☑ | ☑ |
| Criteria: | "The Lords Hall" | Like "*2025" | | >90 |
| or: | | | | |

query(b)

| RoomName | PartyDate | NumberFreeBedroooms | RevenueLost |
|---|---|---|---|
| The Lords Hall | 11/01/2025 | 3 | £270.00 |
| The Lords Hall | 18/01/2025 | 2 | £180.00 |
| The Lords Hall | 25/01/2025 | 2 | £180.00 |

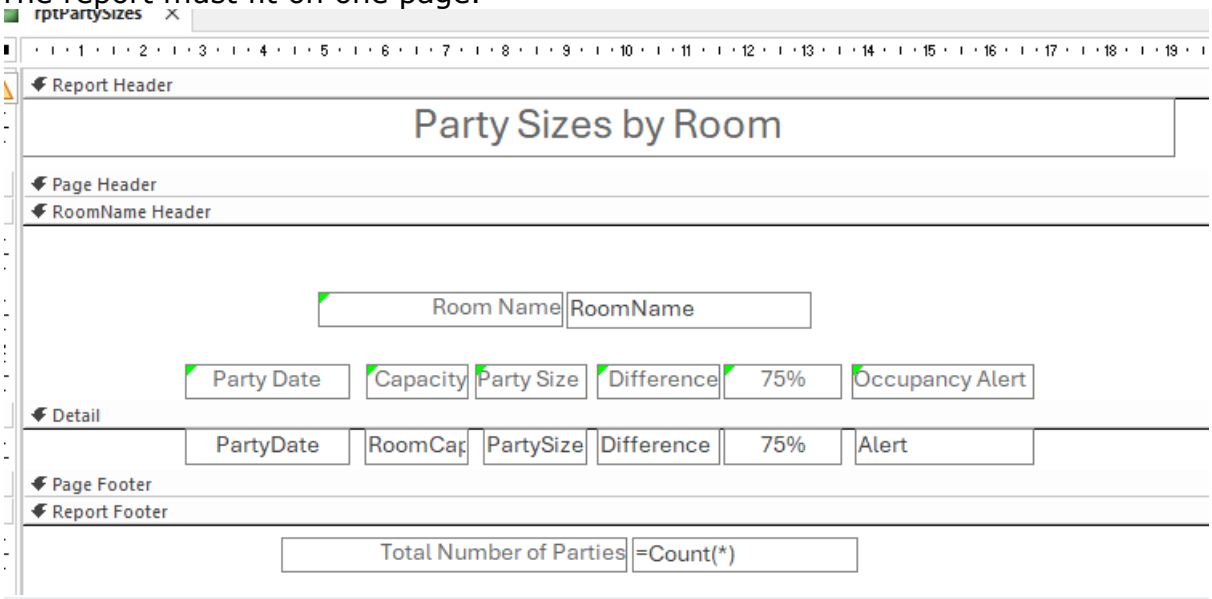
(c) A room should not be booked if the party size is less than 75% of the room capacity. If the party size is less than 75% of the room capacity, then an under-occupancy alert is needed.

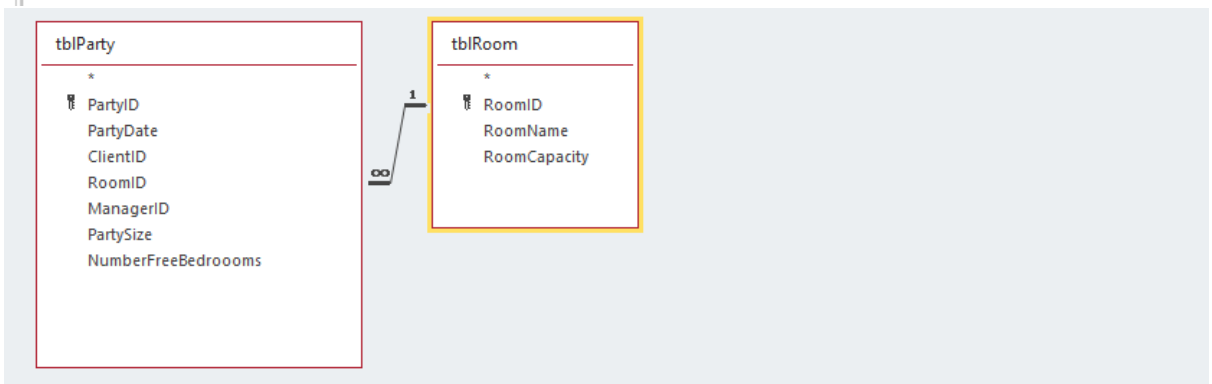
Create a report that shows party bookings for rooms.

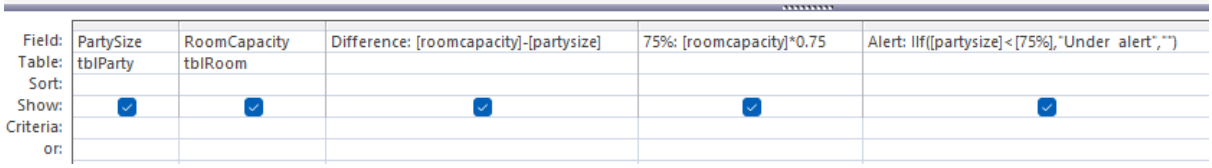
For each room, calculate:
- the difference between the room capacity and the party size
- 75% of the room capacity
- whether an under-occupancy alert is needed.

Display:
- a suitable report title
- the room name
- the party date
- the room capacity
- the party size
- the difference between the room capacity and the party size
- 75% of the room capacity
- the words "Under Occupancy" if the party size is less than 75% of the room
- capacity
- the total number of parties overall.

The report must fit on one page.



(d) PDF (**NOTE**: The report is for illustration purposes only. There needs to be a pdf copy of the database report.)

# Party Sizes by Room

Room Name Cosy Corner

| Party Date | Capacity | Party Size | Difference | 75% | Occupancy Alert |
|---|---|---|---|---|---|
| 11/01/2025 | 30 | 28 | 2 | 22.5 | |
| 10/10/2024 | 30 | 28 | 2 | 22.5 | |

Room Name The Durham

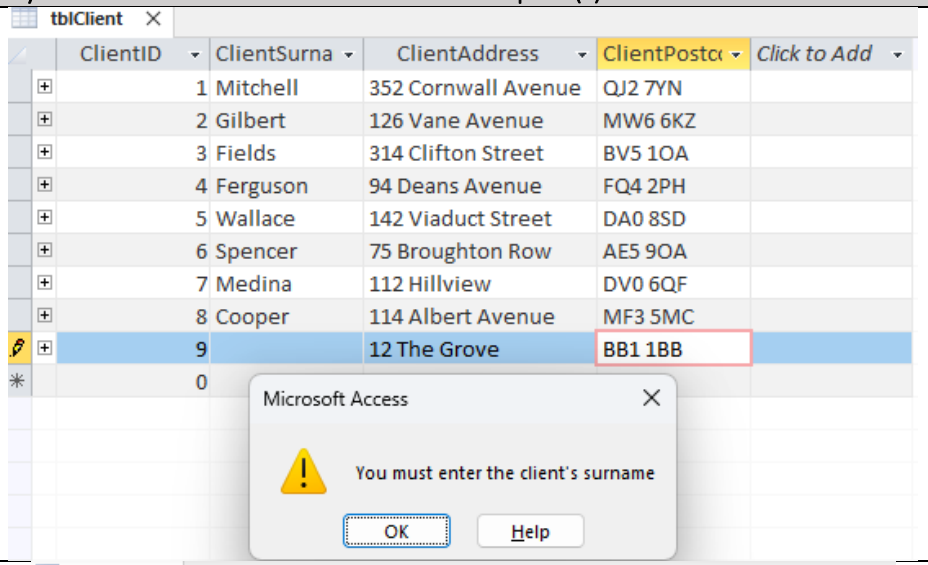
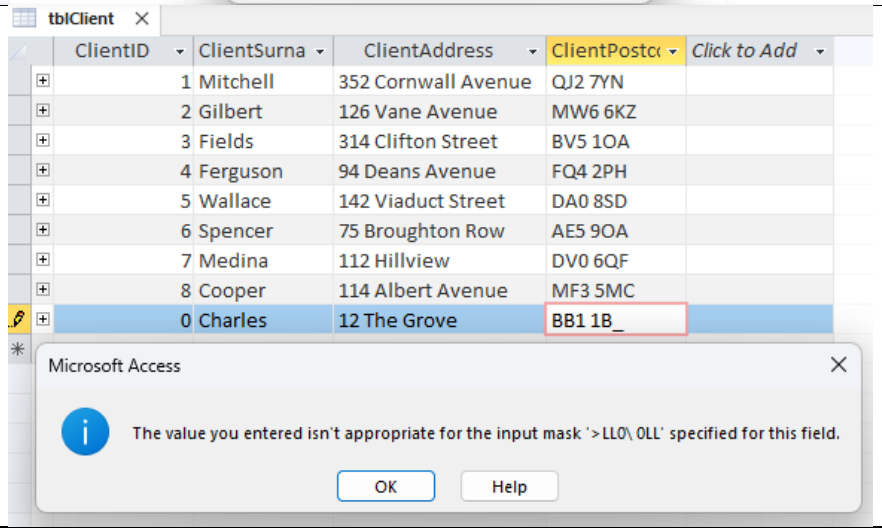
| Party Date | Capacity | Party Size | Difference | 75% | Occupancy Alert |
|---|---|---|---|---|---|
| 25/01/2025 | 40 | 38 | 2 | 30 | |
| 11/01/2025 | 40 | 35 | 5 | 30 | |
| 04/01/2025 | 40 | 40 | 0 | 30 | |

Room Name The Lords Hall

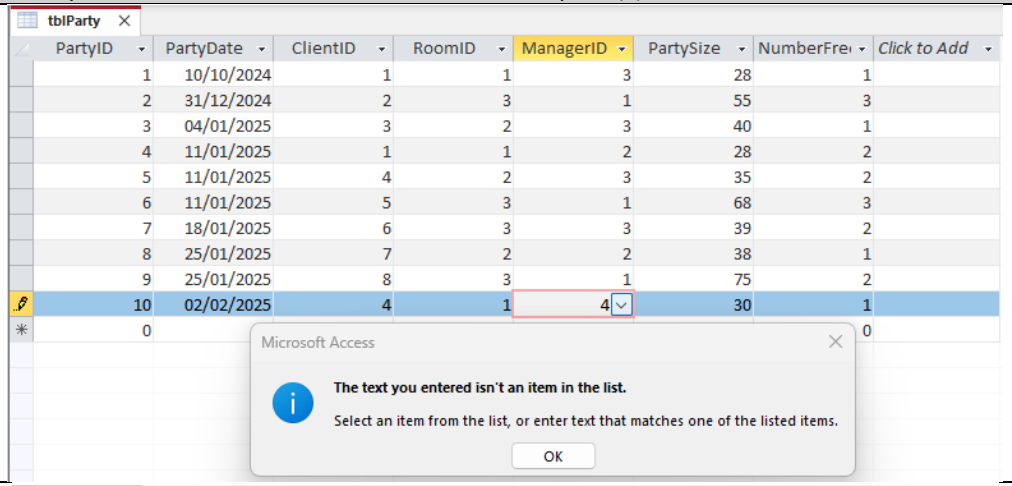
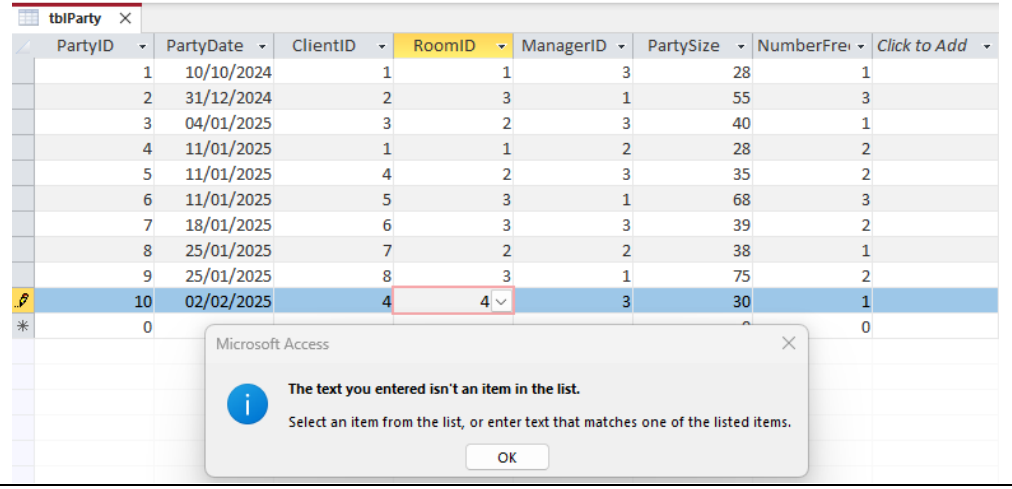
| Party Date | Capacity | Party Size | Difference | 75% | Occupancy Alert |
|---|---|---|---|---|---|
| 25/01/2025 | 75 | 75 | 0 | 56.25 | |
| 18/01/2025 | 75 | 39 | 36 | 56.25 | Under occupancy |
| 11/01/2025 | 75 | 68 | 7 | 56.25 | |
| 31/12/2024 | 75 | 55 | 20 | 56.25 | Under occupancy |

Total Number of Parties 9

# Activity 4 – Structure testing

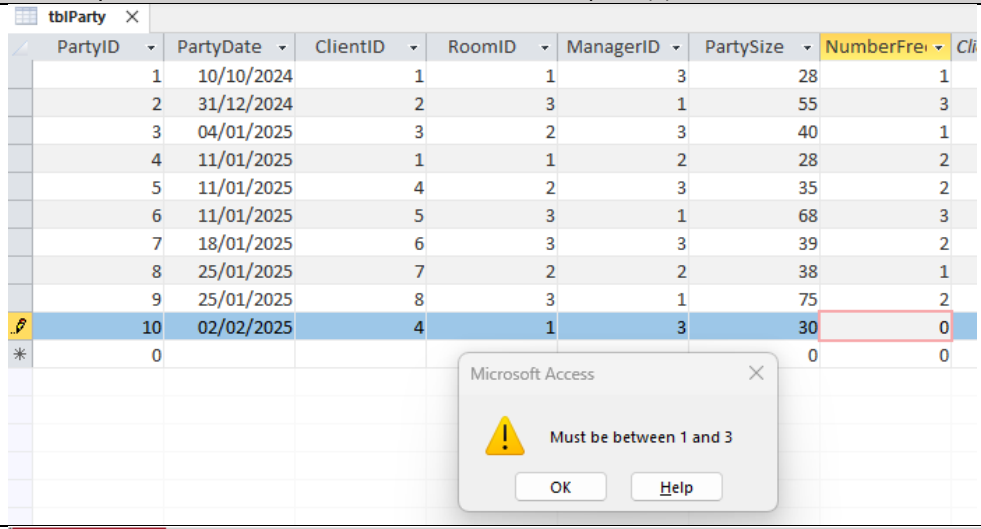
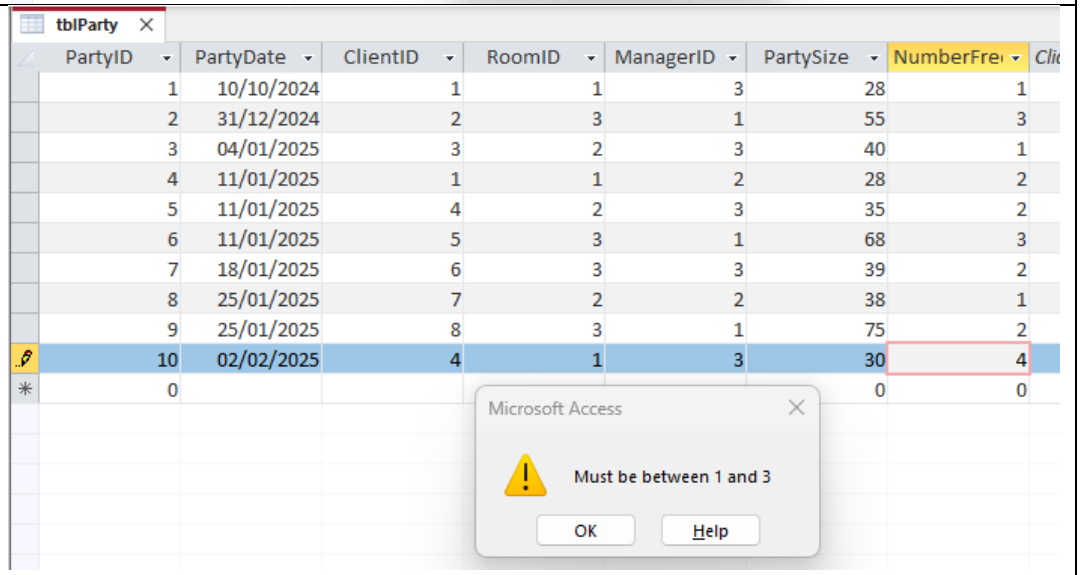
| Test No | Test data | Expected results | Add screenprint(s) of the results of this test (and any retests)<br>Ensure you show the test data used in the screenprint(s) |
|---|---|---|---|
| 1 | ClientID: 9<br>ClientSurname: blank<br>ClientAddress: 12 The Grove<br>ClientPostcode: BB1 1BB | Error message to be displayed saying You must enter the client's surname |  |
| 2 | ClientID: 9<br>ClientSurname: Charles<br>ClientAddress: 12 The Grove<br>ClientPostcode: BB1 1B1 | The final 1 not to be allowed as input and an error message to appear when the user moves out of the record to say the value entered is not appropriate for the input mask >LL0 0LL |  |

tblClient
ClientID
ClientSurna
ClientAddress
ClientPostc
Click to Add
1 Mitchell 352 Cornwall Avenue QJ2 7YN
2 Gilbert 126 Vane Avenue MW6 6KZ
3 Fields 314 Clifton Street BV5 1OA
4 Ferguson 94 Deans Avenue FQ4 2PH
5 Wallace 142 Viaduct Street DA0 8SD
6 Spencer 75 Broughton Row AE5 9OA
7 Medina 112 Hillview DV0 6QF
8 Cooper 114 Albert Avenue MF3 5MC
9 12 The Grove BB1 1BB
0
Microsoft Access
You must enter the client's surname
OK
Help
tblClient
ClientID
ClientSurna
ClientAddress
ClientPostc
Click to Add
1 Mitchell 352 Cornwall Avenue QJ2 7YN
2 Gilbert 126 Vane Avenue MW6 6KZ
3 Fields 314 Clifton Street BV5 1OA
4 Ferguson 94 Deans Avenue FQ4 2PH
5 Wallace 142 Viaduct Street DA0 8SD
6 Spencer 75 Broughton Row AE5 9OA
7 Medina 112 Hillview DV0 6QF
8 Cooper 114 Albert Avenue MF3 5MC
0 Charles 12 The Grove BB1 1B_
Microsoft Access
The value you entered isn't appropriate for the input mask '>LL0\ 0LL' specified for this field.
OK
Help

| Test No | Test data | Expected results | Add screenprint(s) of the results of this test (and any retests)<br>Ensure you show the test data used in the screenprint(s) |
|---|---|---|---|
| 3 | PartyID: 10<br>PartyDate: 2/2/2025<br>ClientID: 4<br>RoomID: 1<br>ManagerID: 4<br>PartySize: 30<br>NumberFreebedrooms: 1 | Error message to appear saying the text entered is not an item in the list and to select an item from the list |  |
| 4 | PartyID: 10<br>PartyDate: 2/2/2025<br>ClientID: 4<br>RoomID: 4<br>ManagerID: 3<br>PartySize: 30<br>NumberFreeBedrooms: 1 | Error message to appear saying the text entered is not an item in the list and to select an item from the list |  |

tblParty
PartyID
PartyDate
ClientID
RoomID
ManagerID
PartySize
NumberFree
Click to Add
1 10/10/2024 1 1 3 28 1
2 31/12/2024 2 3 1 55 3
3 04/01/2025 3 2 3 40 1
4 11/01/2025 1 1 2 28 2
5 11/01/2025 4 2 3 35 2
6 11/01/2025 5 3 1 68 3
7 18/01/2025 6 3 3 39 2
8 25/01/2025 7 2 2 38 1
9 25/01/2025 8 3 1 75 2
10 02/02/2025 4 1 4 30 1
0 0
Microsoft Access
The text you entered isn't an item in the list.
Select an item from the list, or enter text that matches one of the listed items.
OK

tblParty
PartyID
PartyDate
ClientID
RoomID
ManagerID
PartySize
NumberFree
Click to Add
1 10/10/2024 1 1 3 28 1
2 31/12/2024 2 3 1 55 3
3 04/01/2025 3 2 3 40 1
4 11/01/2025 1 1 2 28 2
5 11/01/2025 4 2 3 35 2
6 11/01/2025 5 3 1 68 3
7 18/01/2025 6 3 3 39 2
8 25/01/2025 7 2 2 38 1
9 25/01/2025 8 3 1 75 2
10 02/02/2025 4 4 3 30 1
0 0
Microsoft Access
The text you entered isn't an item in the list.
Select an item from the list, or enter text that matches one of the listed items.
OK

| Test No | Test data | Expected results | Add screenprint(s) of the results of this test (and any retests)<br>Ensure you show the test data used in the screenprint(s) |
|---|---|---|---|
| 5 | PartyID: 10<br>PartyDate: 2/2/2025<br>ClientID: 4<br>RoomID: 1<br>ManagerID: 3<br>PartySize: 30<br>NumberFreeBedrooms: 0 | Error message to appear saying<br>Must be between 1 and 3 |  |
| 6 | PartyID: 10<br>PartyDate: 2/2/2025<br>ClientID: 4<br>RoomID: 1<br>ManagerID: 3<br>PartySize: 30<br>NumberFreeBedrooms: 4 | Error message to appear saying<br>Must be between 1 and 3 |  |

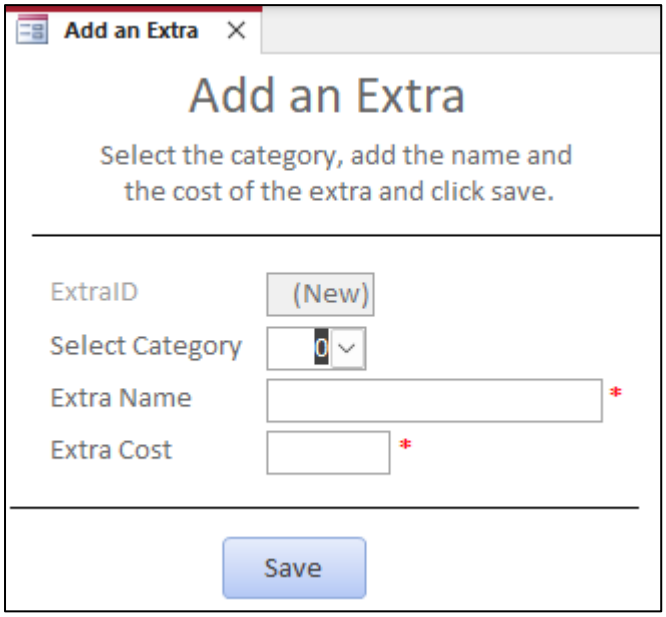
# Part B

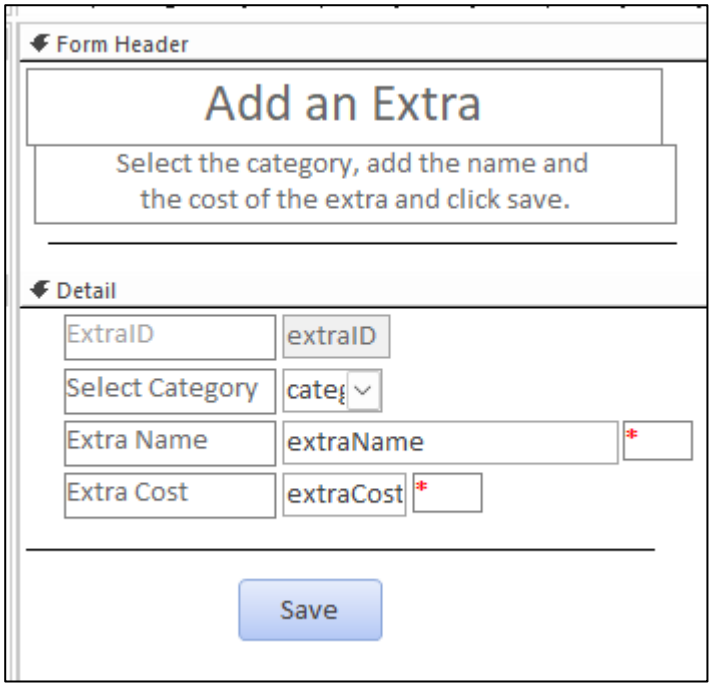


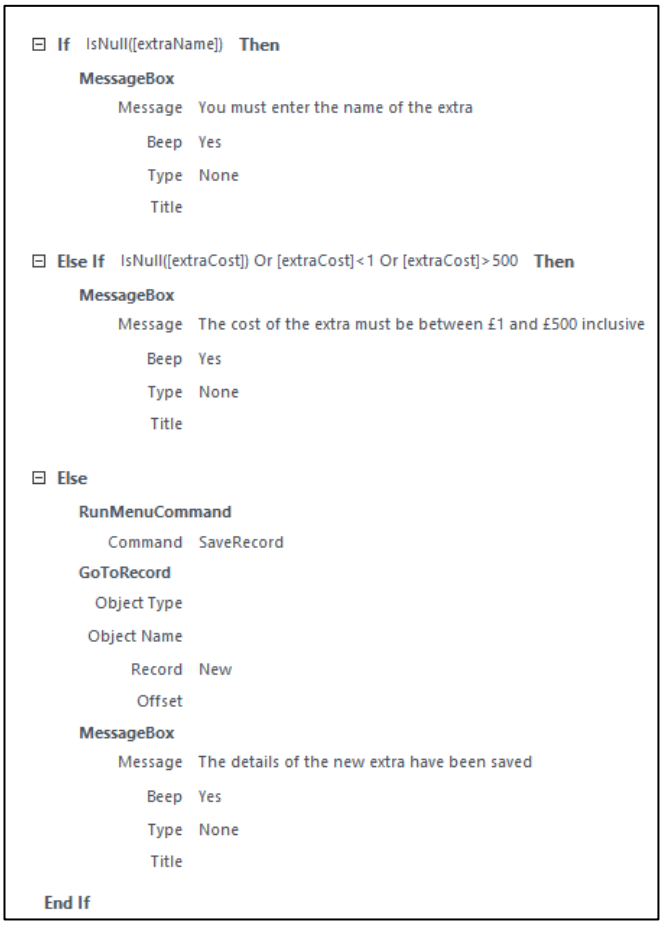
Downloaded by Peter Nurden (pnurdz@hotmail.com)

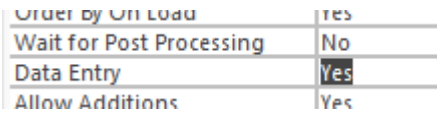
# Activity 6 – Interface

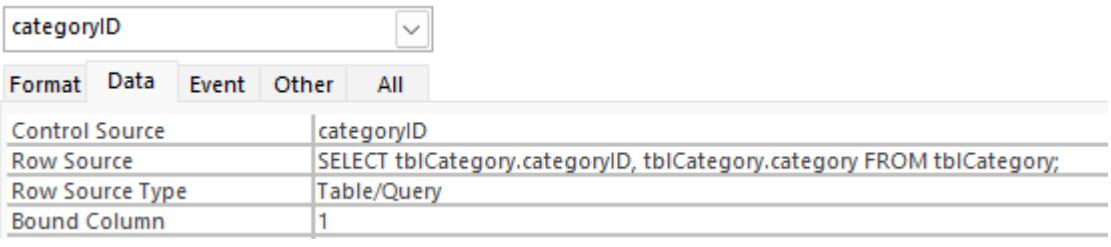
Extra form



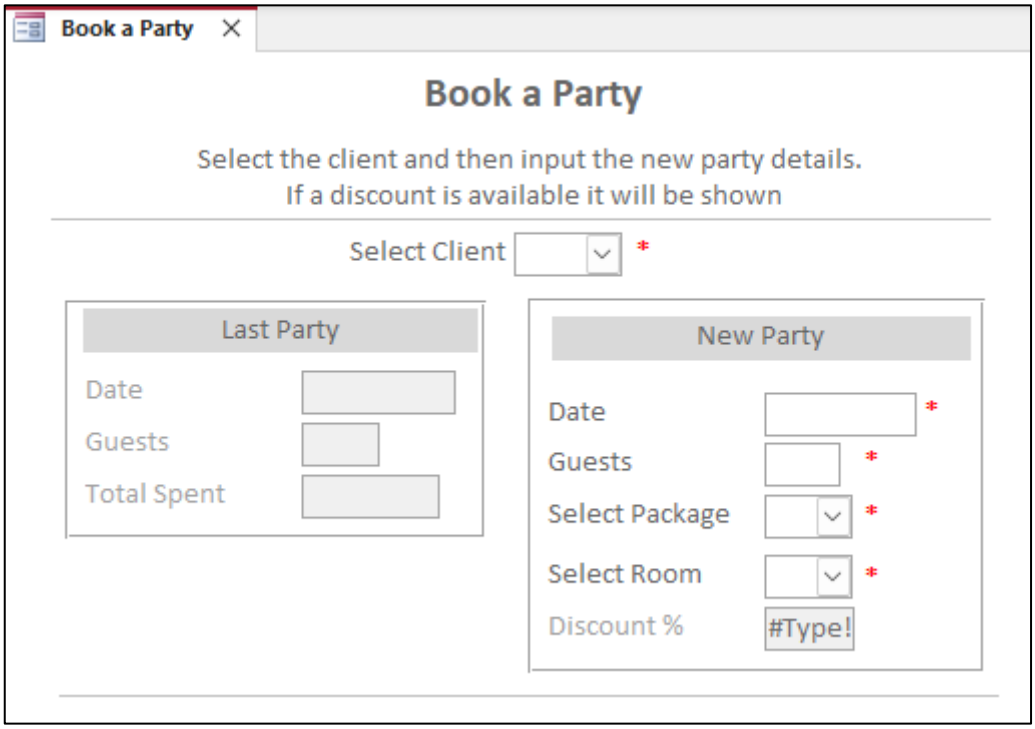



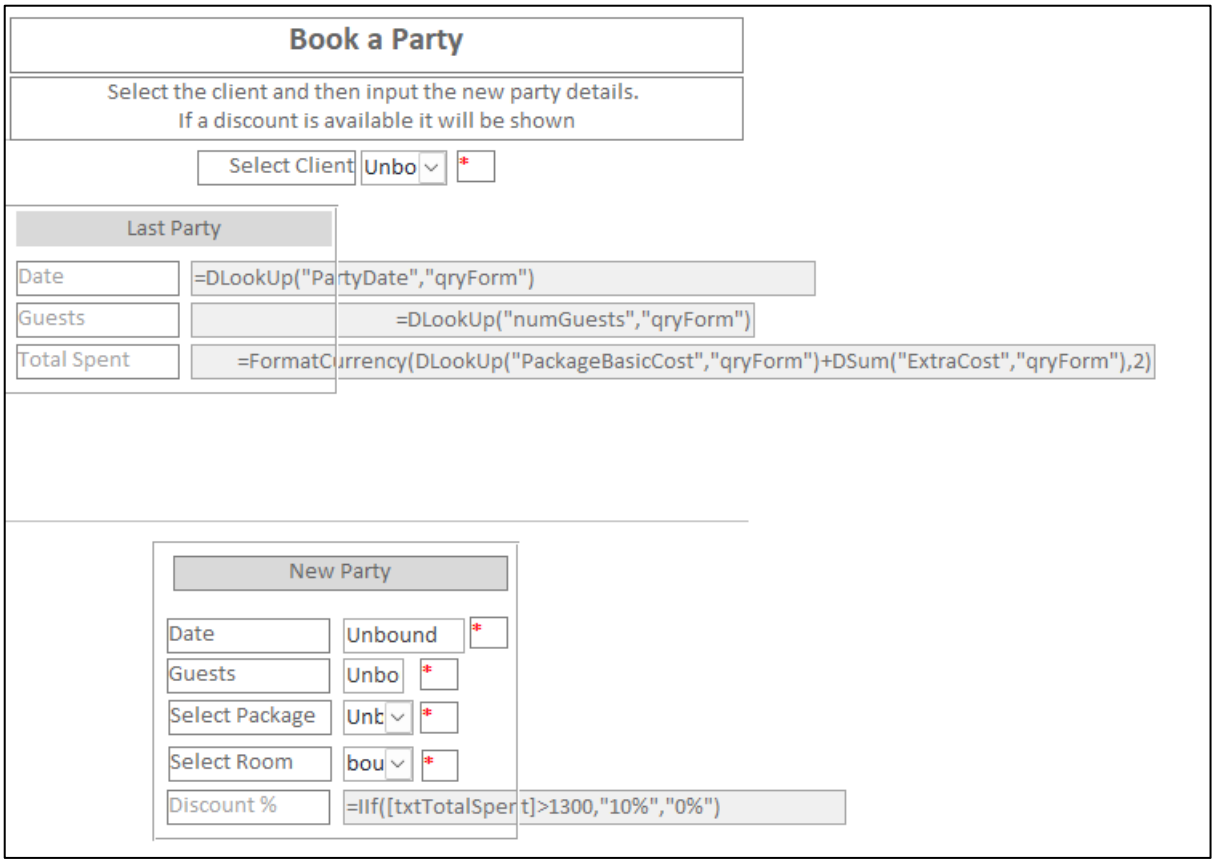



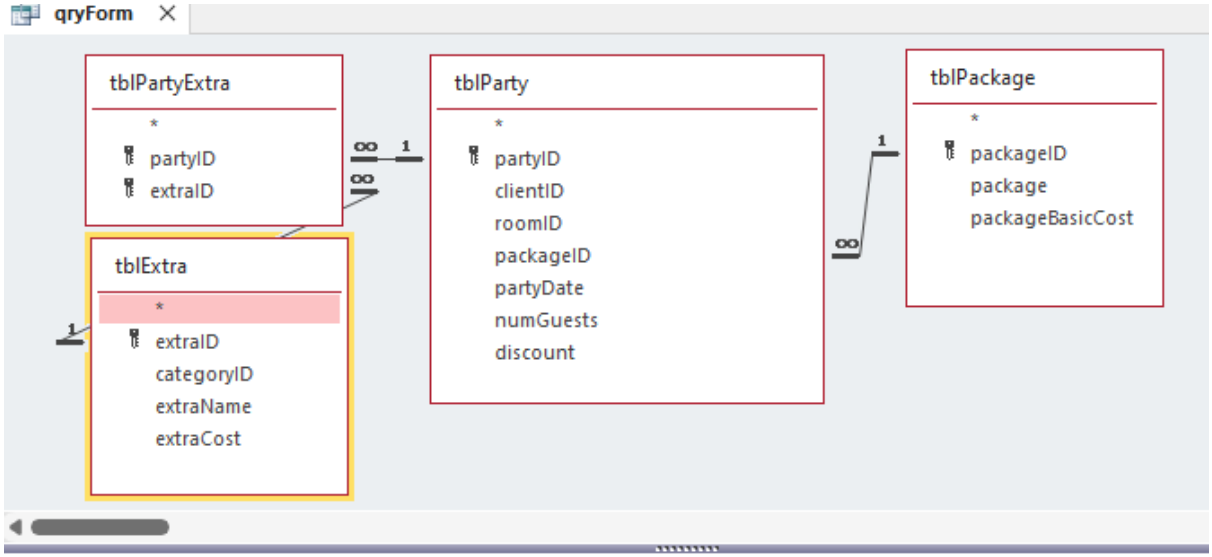



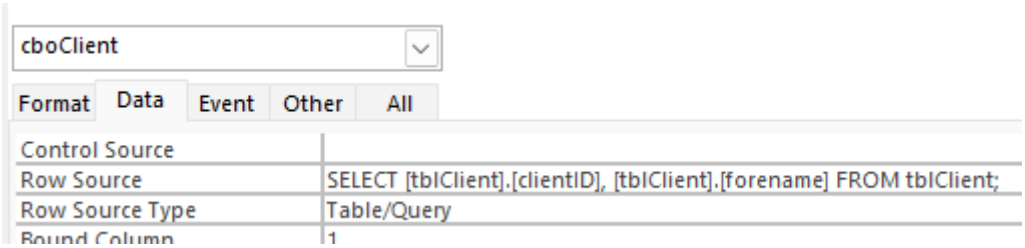
Party booking form

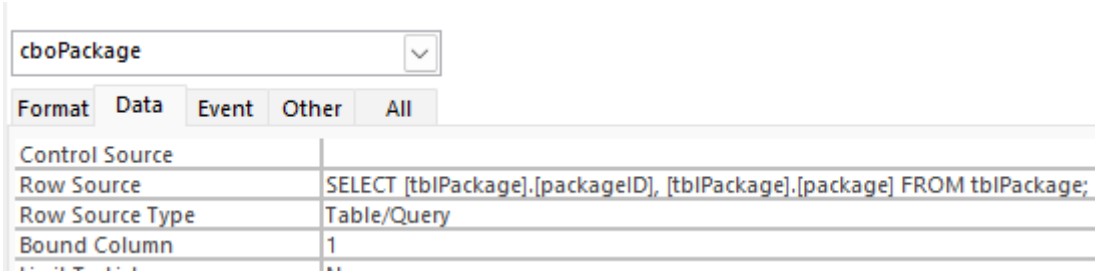


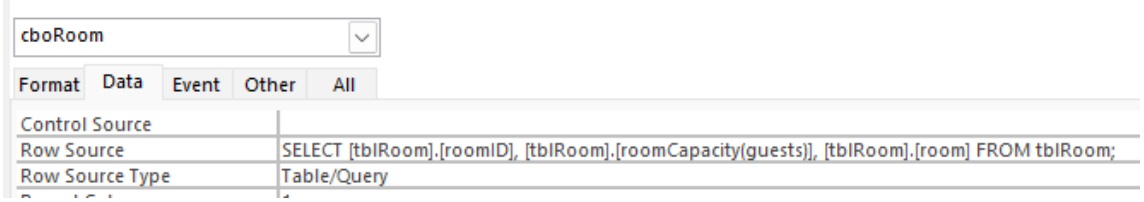





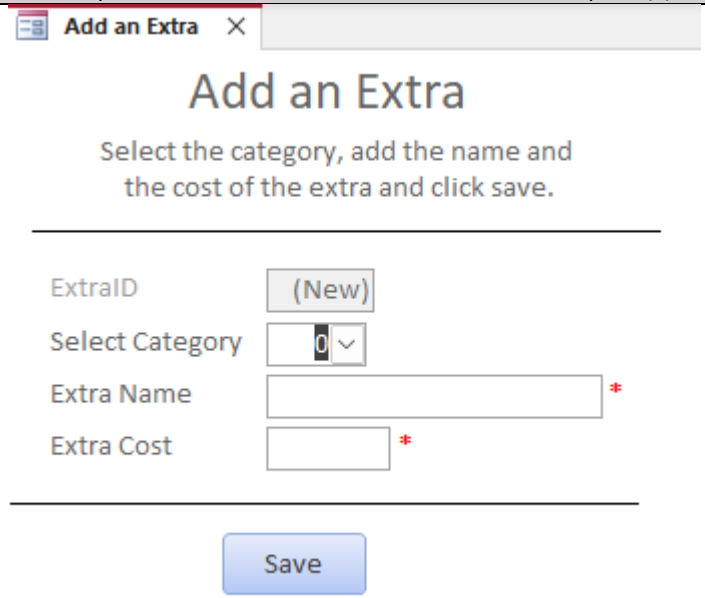
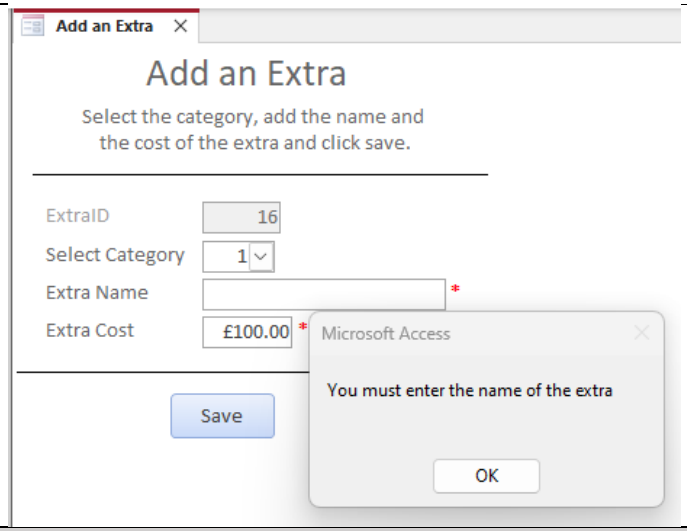

| Field: | clientID | partyDate | numGuests | packageBasicCost | extraCost | |
|---|---|---|---|---|---|---|
| Table: | tblParty | tblParty | tblParty | tblPackage | tblExtra | |
| Sort: | | Descending | | | | |
| Show: | ☑ | ☑ | ☑ | ☑ | ☑ | ☐ |
| Criteria: | [forms]![frmParty]![cboClient] | | | | | |
| or: | | | | | | |

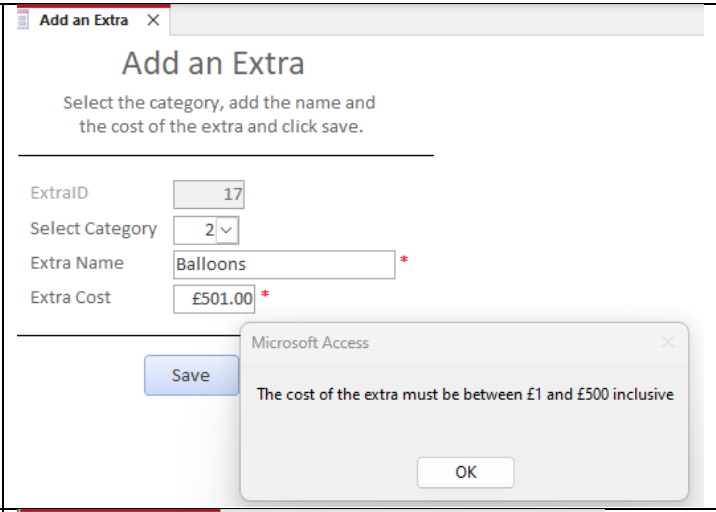
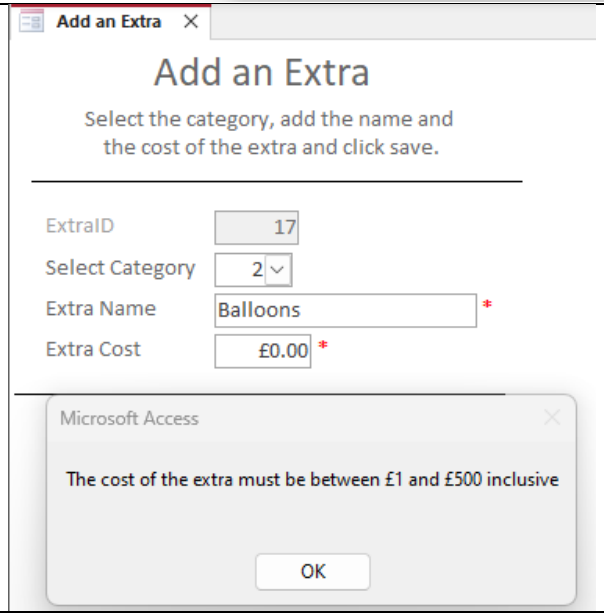


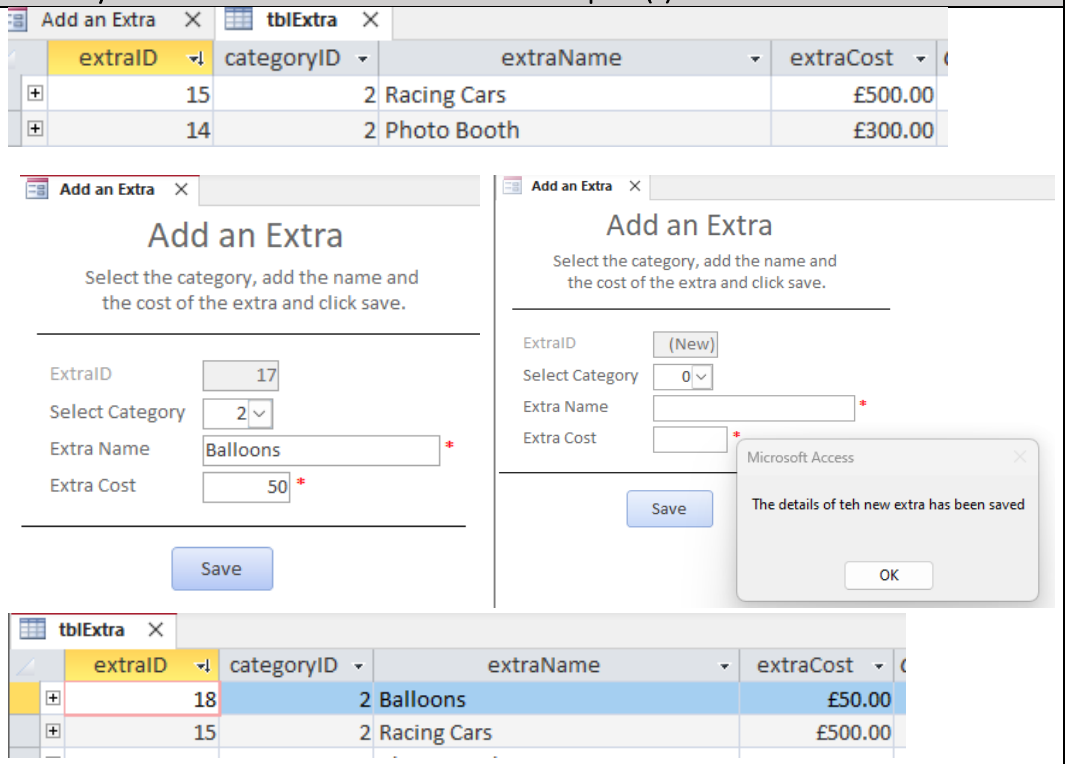



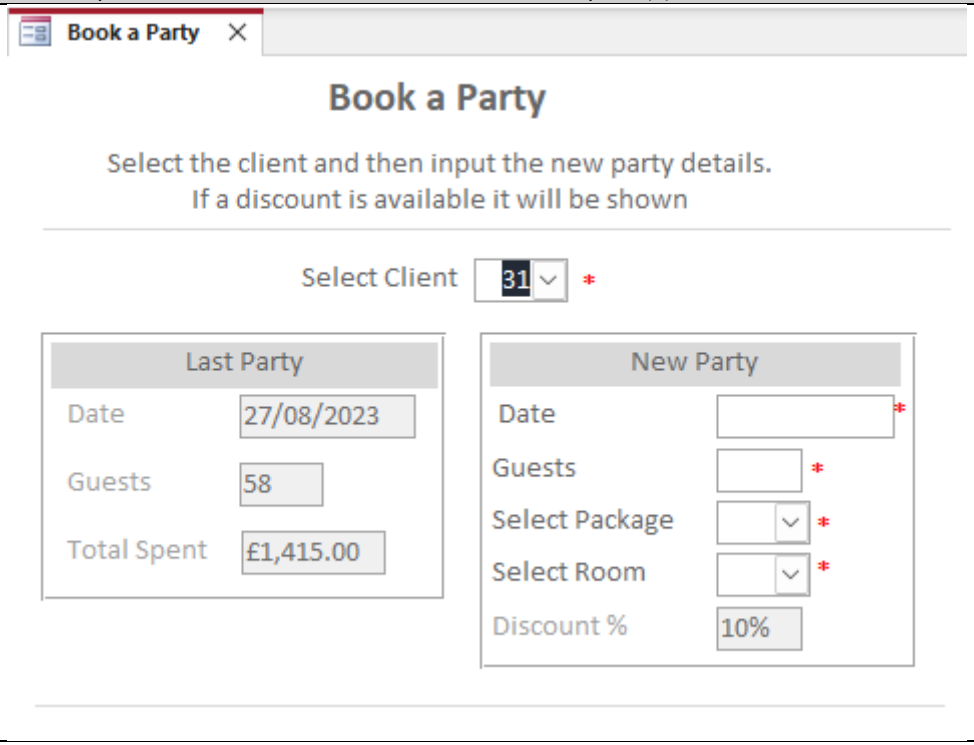



# Activity 7 – Interface testing

| Test No | Test data | Expected results | Add screenprint(s) of the results of this test (and any retests)<br>Ensure you show the test data used in the screenprint(s) |
|---|---|---|---|
| 1 | Open form | ExtraID will display New<br>Select Category will display 0 |  |
| 2 | ExtraID: Autonumber<br>CategoryID: 1<br>Extra name: blank<br>Extra cost: £100 | Error message to appear saying you must enter the name of the extra |  |
| Test No | Test data | Expected results | Add screenprint(s) of the results of this test (and any retests)<br>Ensure you show the test data used in the screenprint(s) |

| | | | |
|---|---|---|---|
| 3 | ExtraID: Autonumber<br>CategoryID: 2<br>Extra name: Balloons<br>Extra cost: £501 | Error message to be displayed saying the cost of the extra must be between £1 and £500 inclusive |  |
| 4 | ExtraID: Autonumber<br>CategoryID: 2<br>Extra name: Balloons<br>Extra cost: £0 | Error message to be displayed saying the cost of the extra must be between £1 and £500 inclusive |  |

| Test No | Test data | Expected results | Add screenprint(s) of the results of this test (and any retests)<br>Ensure you show the test data used in the screenprint(s) |
|---|---|---|---|
| 5 | ExtraID: Autonumber<br>CategoryID: 2<br>Extra name: Balloons<br>Extra cost: £50 | Extra details to save in the extra table. A save message to appear telling the user the new extra details have been saved and the form to be cleared ready for the next input |  |

| Test No | Test data | Expected results | Add screenprint(s) of the results of this test (and any retests)<br>Ensure you show the test data used in the screenprint(s) |
|---|---|---|---|
| 6 | ClientID: 31 | Last Party Section<br>Date 27/08/2023<br>Guests: 58<br>Total Spent: £1415.00<br><br>New Party Section<br>Discount: 10% |  |